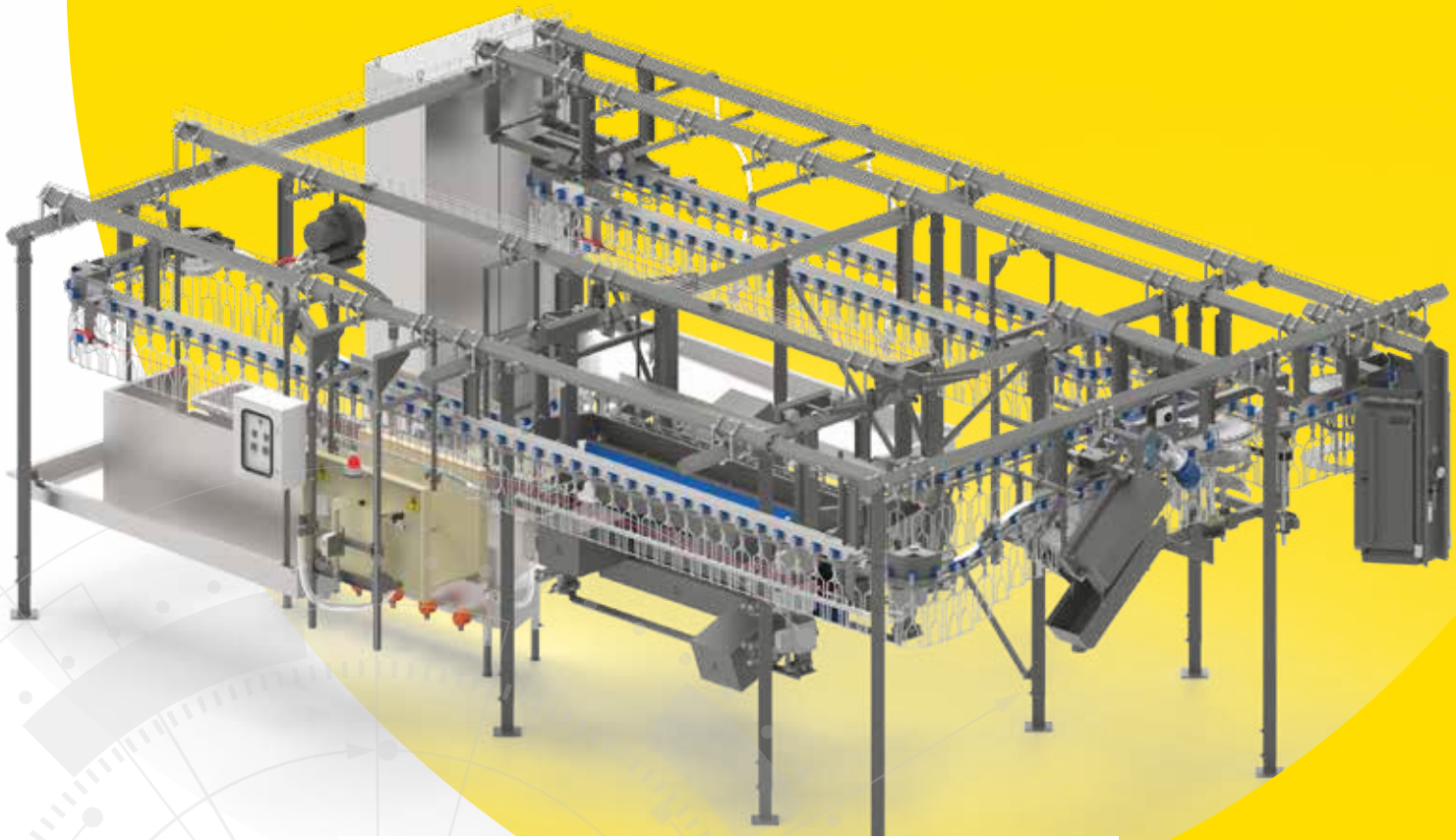


VERDERIO
MEAT PROCESSING TECHNOLOGY
100% MADE IN ITALY

# ALL-IN-ONE PROCESSING PLANT
# 500 BPH

- Up to 500 bph
- Minimum surface required for installation
- Installation time: ready for commissioning in 48 hours
- Entirely stainless steel and plastics
- Easy to clean
- Accessible on each side

The 500-bph compact processing plant was developed by Verderio to meet the needs of emerging markets requiring low-hour capacity plants yet still performing, hygienical-efficient, sturdy, easy-to-use and low-maintenance.

Developing such a project meant, for our engineers, to resort to the most extensively field-tested technologies which are being used to develop the projects of large capacity plants and which can guarantee efficiency and sturdiness.

Our plant consists of single pre-assembled modules to be interconnected at the time of installation, thus allowing to be installed in any room, even already existing, as being the sum of small modules, it can be easily handled and positioned.

Another advantage is the small area required for the whole processing, from shackling to bleeding, from scalding to plucking, and from eviscerating to cooling: everything is designed to be functional and efficient in the smallest possible space.

500

**MAX CAPACITY 500 BPH**

HIGH

**HIGH QUALITY OF END PRODUCTS**

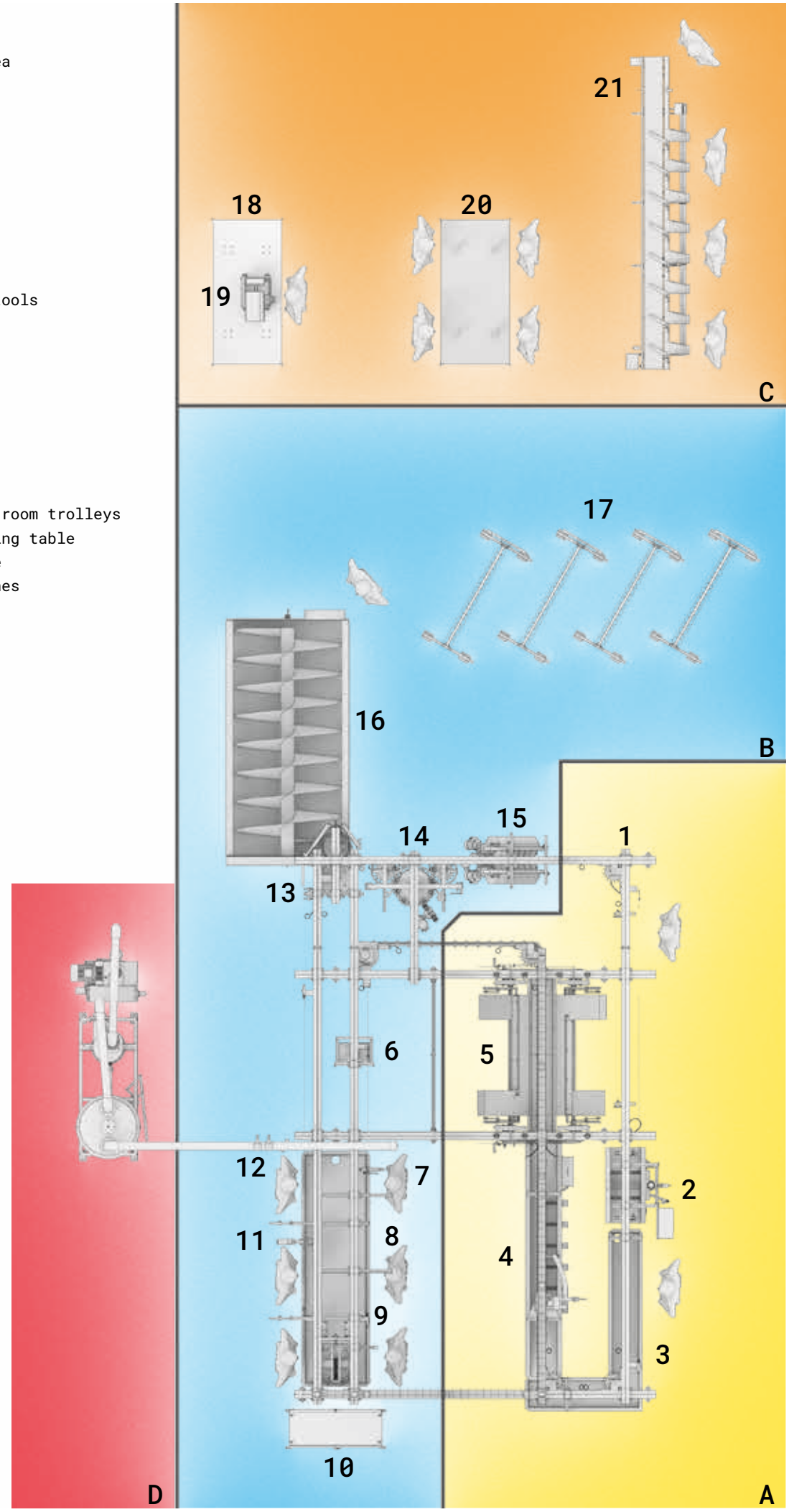
QUALITY

**ENTIRELY STAINLESS STEEL HIGH QUALITY PLANTS**

TOP

**ANIMAL WELFARE**

- A Dirty area
- B Clean area
- C Cut-up and boxing area
- D By-product area
-
- 1 Overhead conveyor
- 2 Stunner
- 3 Blood hopper
- 4 Scalder
- 5 Discomatic plucker
- 6 Head puller
- 7 Vent gun
- 8 Eviscerating manual tools
- 9 Viscera hopper
- 10 Neck gun
- 11 Lung suction system
- 12 Hock cutter
- 13 Hock unloader
- 14 Shackle washer
- 15 Control board
- 16 Water chiller
- 17 Dripping and/or cold room trolleys
- 18 Stainless-steel working table
- 19 Manual cut-up machine
- 20 Cut-up table with cones
- 21 Belt weigher



# Shackling and killing

During this initial stage an operator pulls chickens out of the crates used for live bird transport from the farms and shackles them.

The chain with shackled chickens automatically conveys birds through the processing phases.

The plant is designed in compliance with the religious and animal welfare requirements ruling in countries throughout the world: the basic plant is stunner-free indeed. The stunner is an optional item, thus killing is carried out both on stunned and un-stunned animals.

An operator incises both carotids allowing birds to bleed completely into the hopper below that runs up to the scalder.

Minimum bleeding time is calculated for a maximum production capacity of 500 heads/hour.

# Scalding and plucking

At the end of the bleeding stage, chickens automatically lower into the scalder water. Scalding water is heated by electric coils until it reaches a temperature of around 56/58 °C which is controlled and maintained constant by an electronic control system.

In order to ensure an excellent soaking of chickens and prepare them for the following plucking phase, the scalder water is stirred by a pump blowing air at the bottom of the scalder. Ascending air allows hot water to reach the bird skin and stir feathers, thus weakening the connection between feathers and follicles.

Following to the scalding phase, chickens automatically proceed towards the plucker which automatically plucks them.

The plucker is equipped with 4 plucking bars, 2 per each bird side, in order to pluck either big or small-size chickens.

# Eviscerating and finishing

The chain moves towards the other plant area: the “clean area” where operations are mainly manual.

The first operation, that can be automatic in case of purchase of the head puller (optional item), is head removal which in most birds implies pulling out the trachea too.

The first operator along the line cuts the vent by means of scissors or by means of a specific gun (optional item). The second operator, by means of a knife, cuts the skin near the hole drilled by the first operator, thus facilitating the following eviscerating phase.

Evisceration is manually carried out by means of a specific “spoon”.

Other operators then remove the organs remained inside birds. If a pneumatic neck gun is provided (optional item), an operator can automatically cut necks. Likewise, at the end of evisceration, if a lung gun is provided (optional item), an operator can suck lungs from birds.

# Cooling

It is the final processing stage.

An operator cuts the bird hocks or, in case a hock cutter is installed (optional item), hocks are automatically cut. As a consequence, birds fall onto a table or directly into the water chiller (optional item). On the other hand, in case of air cooling, an operator grabs chickens from the table (optional item) and places them onto cold room trolleys (optional items). Furthermore, trolleys can even be used at the exit of the water chiller, thus allowing birds to drip and dry.

Once hocks are cut by the hock cutter (optional item), they keep on hanging from shackles until they are removed. Their removal can take place in two different ways. Either the operator, charged with live bird shackling, manually unshackles hocks or the hock unloader (optional item) automatically removes them.

At the end of processing, a shackle washer (optional item) can wash shackles.

# Cut-up and boxing

Nowadays, there is a growing demand for more and more portioned products, therefore it is possible to upgrade the plant with the installation of a manual cut-up machine (optional item) or with a table with cones (optional item).

Both solutions allow to carry out the cut-up phase more smoothly.

The manual cut-up machine allows to portion animals in an easier and faster way.

The table with cones, on the other hand, is perfect for a smooth, operator-friendly deboning thanks to its pivoting cones.

At the end of processing and cut-up, it is possible to subdivide both whole and portioned animals by weight categories via a belt weigher with 6 unloading stations (optional item).

# Components of the processing plant

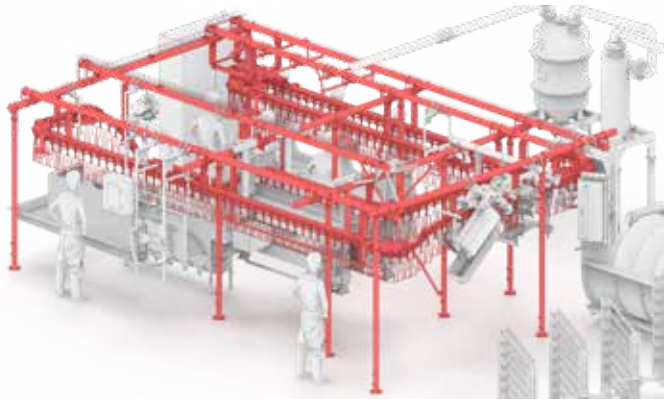
**1 Overhead conveyor**

The overhead conveyor is a crucial part of processing plants as it conveys animals through the various processing phases, whether manual or automated.

This compact plant has the support structure, the track suspension points, the track itself, and all the transmission and drive corners, entirely made of stainless steel. The transmission and drive wheels, instead, are made of plastic material.

Animals are hung to particular shackles, which are specifically designed in size to spare animal pain and distress.

The chain is automatically tightened by means of a tensioner and is controlled by an electric control board to adjust its speed.



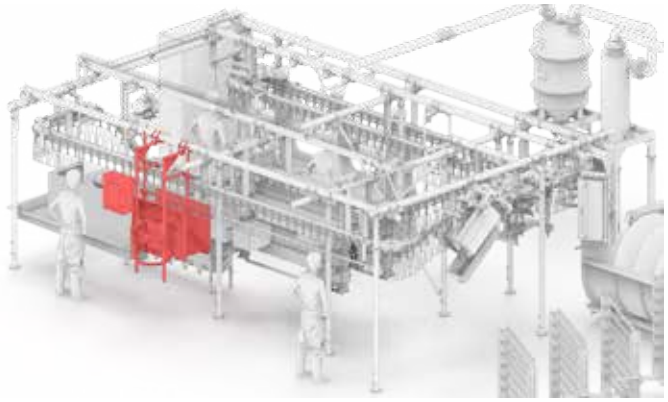
**2 Stunner (Optional item)**

This machine is never integrated into an Islamic ritual slaughtering plant (Halal) as the following bleeding stage is carried out on un-stunned animals.

Verderio stunner carries out a perfect stunning of animals thus ensuring an excellent bleeding phase.

Animals shackled to the overhead conveyor travel through the stunner, which is made of insulating material, for a minimum time of 4 seconds; animals easily enter and leave the stunner thanks to inclined ramps.

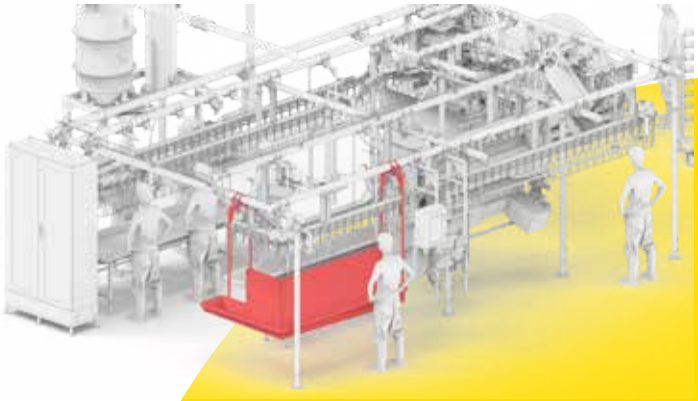
The stunning phase is controlled by the stunning control board which allows to set all the key parameters. The main point is the high-frequency stunning which reduces muscle contraction to the benefit of the quality of meat.



**3 Blood hopper**

Immediately after stunning, animals travel over the blood hopper: an operator cuts both carotids to allow for animal bleeding.

The blood hopper is made of stainless steel and is equipped with a drain valve.

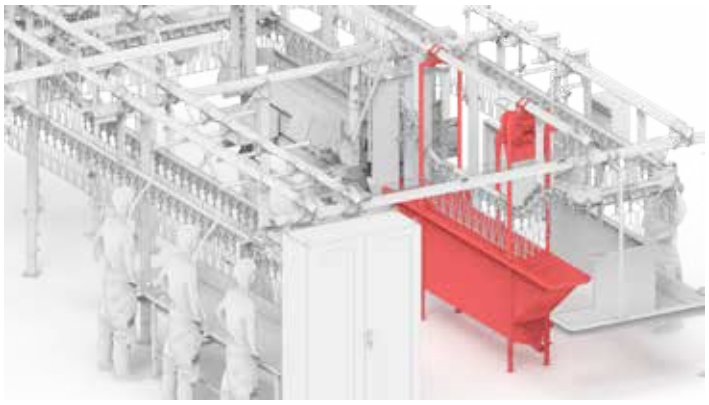


**4 Scalder**

This is a crucial stage as excellent scalding means excellent plucking.

Scalding consists in soaking the animals in warm water at a temperature of 56/58 °C. During this stage, the water is stirred by air bubbles emerging from a series of diffusers located at the bottom of the tub: air bubbles shake the animal feathers thus allowing water to permeate the animal skin and weaken the connection between feathers and follicles.

The temperature is controlled by a system that keeps it as constant as possible. Water heating is indirectly achieved by means of electrical coils.



**5 Discomatic plucker**

The discomatic plucker gently plucks animals to remove feathers while avoiding animal damage.

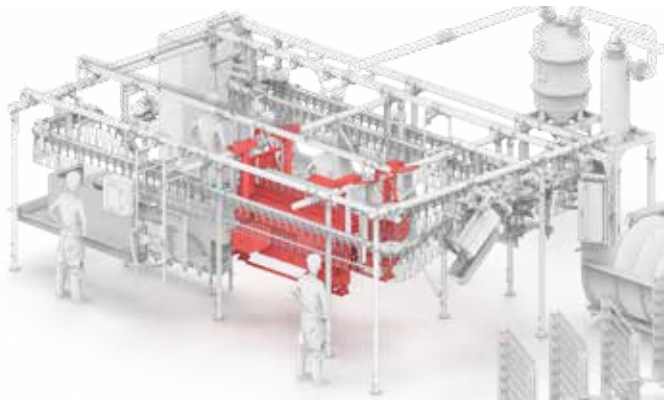
The use of round and short rubber fingers allows to follow the anatomical profile of animals being plucked thus achieving excellent plucking.

The plucking disks are driven by a motor that, by means of a belt, individually transmits them the motion. Furthermore, this solution dramatically reduces noise pollution.

From the hygienic point of view, this machine offers multiple benefits: excellent accessibility to the inside of the machine, total elimination of flat surfaces and the installation of guards to channel feathers.

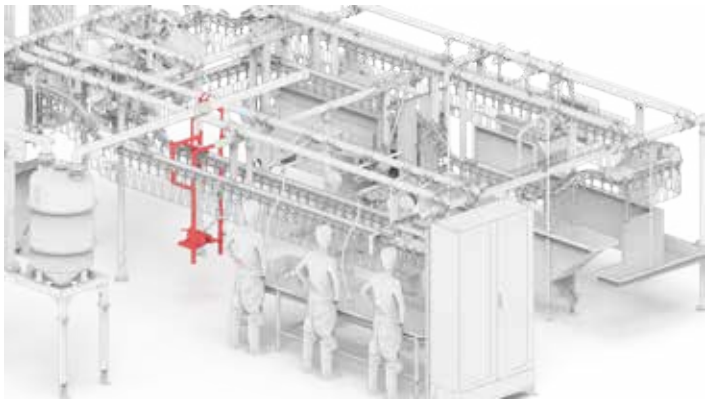
Another aspect tackled by our engineers was the shape and size of bars as well as their adjustment that can be quickly made during operation.

Shape and size allow to set the plucking bars in such a way as to reach the whole animal surface, even in case of small birds.



**6 Head puller (Optional item)**

This simple machine allows to remove the head of animals by means of two stainless-steel guide rails. Furthermore, it does not require maintenance.



**7 Vent gun (Optional item)**

Vent cutting if the first step of evisceration and it is made easier by using a specifical-designed gun.

The circular blade is internally provided with a centering device which is pushed into the animal intestine. During the cutting phase, the skin is sucked into the blade by means of vacuum, so that it is cut in the easiest way by means of rotary motion. Vacuum guarantees the absence of contamination during the cutting phase.

Once the cut is made, the blade stops its rotation, vacuum is closed and a water jet washes the blade and the centering device prior to the following vent cut is made.

**8 Evisceration manual tools (Optional items)**

These tools are used in the absence of automatic instruments or machines.

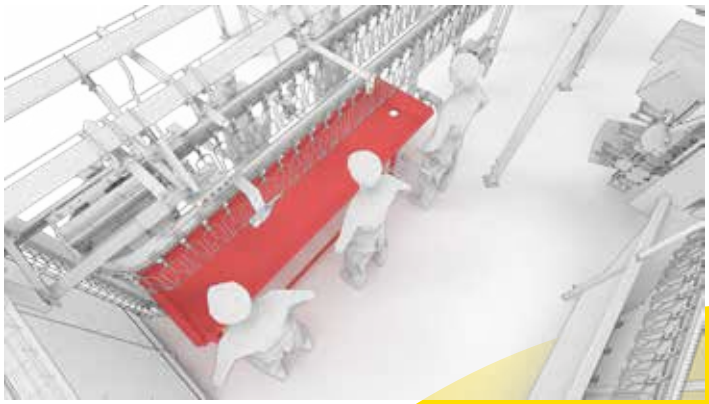
This set of tools consists of knives to kill animals and to preliminary open the animal abdomen, scissors to complete the abdominal opening and a spoon to eviscerate animals.

**9 Viscera hopper**

This hopper is entirely stainless steel and is used to collect the viscera and the giblets removed from animals by operators during the evisceration stage.

The evisceration stage is manually carried out by making use of this specific “spoon”.

The hopper is equipped with a drain pipe for its emptying.



**10 Neck gun (Optional item)**

The animal neck removal is carried out by means of a pneumatic gun. This gun facilitates operators and makes neck cutting easy and fast.

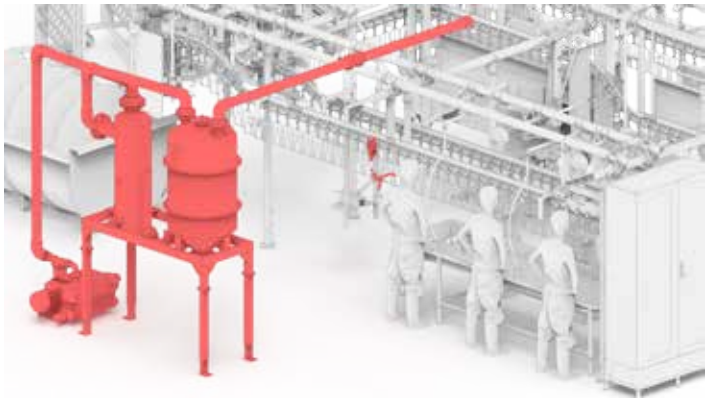
It is provided with a pneumatic cylinder which operates two blades that close and cut the animal neck positioned in-between.

**11 Lung suction system (Optional item)**

This gun, operated by an operator, is entirely stainless steel and is equipped with a pipe to be inserted into the animal. Once the pipe is in place, the operator, by pressing a button, starts suction: he focuses the pipe action on the back to suck lungs.

The gun is connected to a lung-collecting cyclone which is connected to a protection cyclone which, in its turn, is connected to a vacuum pump.

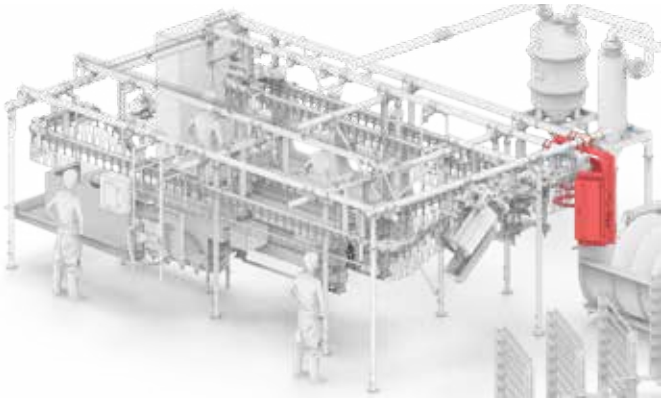
The system works with the vacuum produced by the vacuum pump. When processing is over, the valve located below the cyclone is opened to drain the product into a container for evacuation.



**12 Hock cutter (Optional item)**

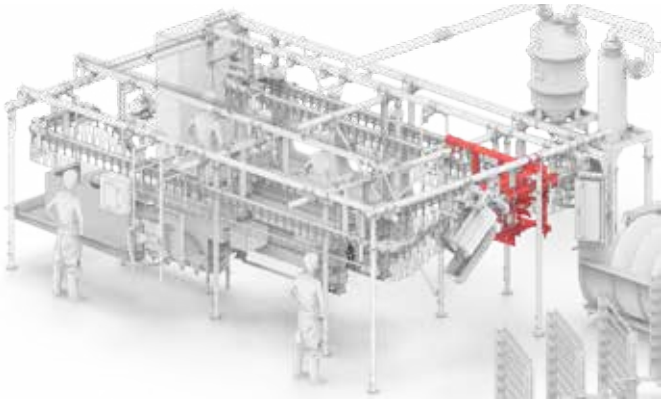
Once the evisceration stage is over, the animals travel through the hock cutter which, by cutting their hocks, make them directly fall into the water chiller.

The cut is made by a circular blade, which can be adjusted in height to fit the length of the cut to the needs of each single customer.



**13 Hock unloader (Optional item)**

Once hocks are cut by the hock cutter (Optional item), they keep on hanging from shackles until they are removed by the hock unloader: hocks are lifted by a guide rail made of stainless steel and then removed by a brush with rubber fingers.

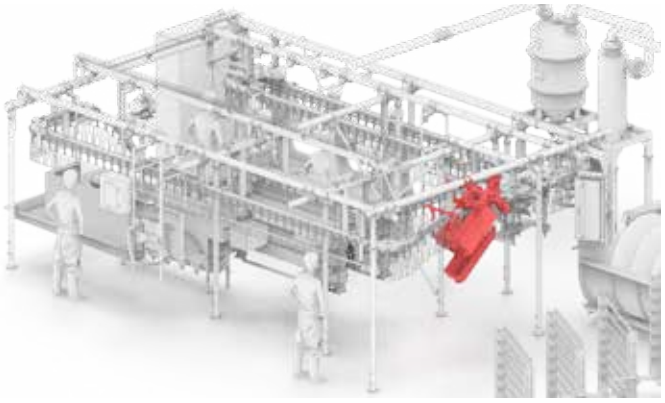


**14 Shackle washer (Optional item)**

At the end of processing, and before shackles travel again through the shackling area, they are washed by a shackle washer with brushes.

The washing phase is performed as a non-stop process during operation: the shackles travel through the shackle washer which is equipped with a rotary brush per side while two pipes distribute water along the brushes.

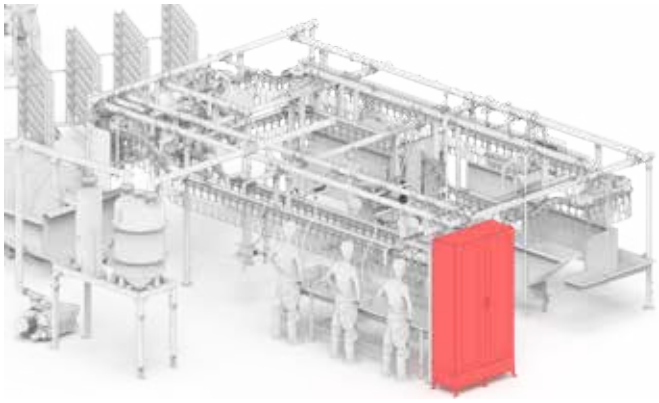
This system always allows to hang the animals to clean shackles.



**15 Control board**

The whole plant is controlled by an electronic control board made of stainless steel and integrated into the plant.

The control board contains the motor protection devices, the settings of the chain speed and the start/stop push buttons of each single machine being part of the processing plant.



**16 Water chiller (Optional item)**

At the end of the eviscerating stage, the animals have to be cooled down. They directly fall from the hock cutter into the water chiller. This machine is filled with water kept cold by means of a refrigeration system or by adding ice. Air is blown into the water chiller to shake the animals for a better refrigeration.

Stay time inside the water chiller is controlled by a screw that carries the animals forward until they are automatically discharged at the end of the water chiller.

**17 Dripping and/or cold room trolleys (Optional item)**

Once animals are cooled down, they can be portioned. An operator hangs the animals to a chain along which other operators cut wings, breast, legs, etc..

**18 Working table (Optional item)**

Entirely stainless steel, this table can be used for further processing, for instance boxing, cut-up, deboning, etc..

**19 Manual cut-up machine (Optional item)**

This machine is used to portion animals. It is provided with a circular blade and makes cut-up fast and easy.

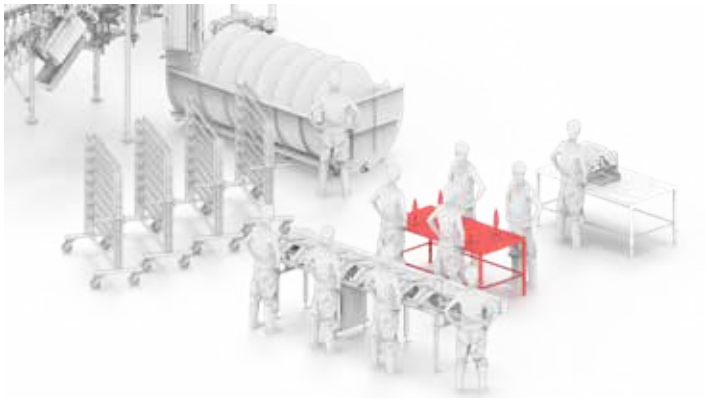
An operator places the area to be cut close to the blade and the machine, with extreme simplicity, performs the cut.

**20 Cut-up table with cones (Optional item)**

This table is provided with 4 revolving cones which greatly facilitate cut-up and deboning.

The revolving cones allow to rotate quickly the animal being portioned and to remove the parts of the animal which is always placed correctly with respect to the operator who can consequently work with ease.

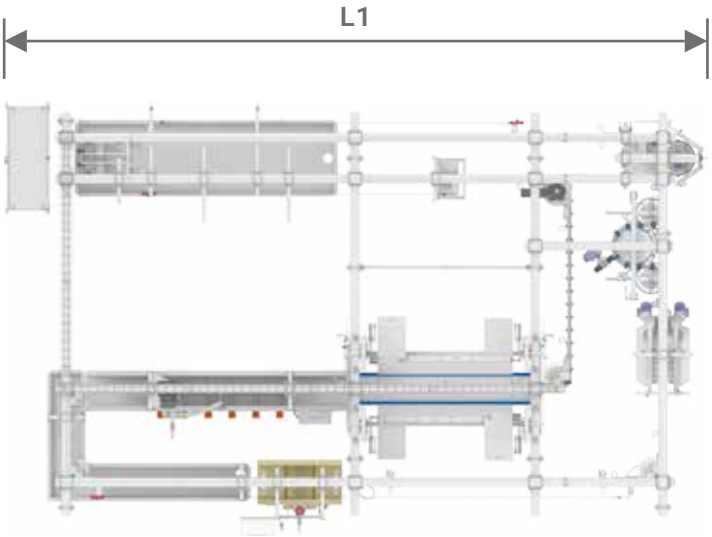
Entirely stainless steel with 4 plastics cones, this table allows 4 operators to work simultaneously.

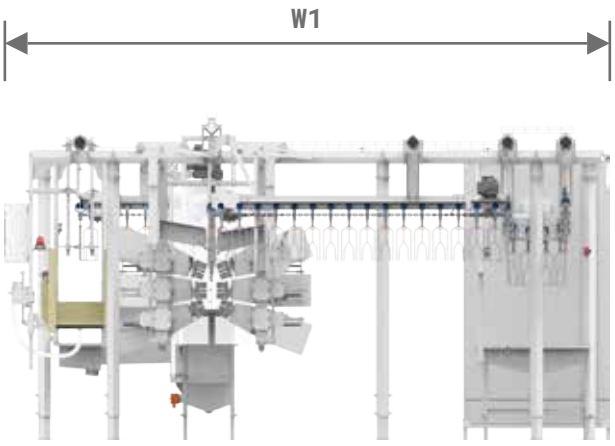


**21 Belt weigher (Optional item)**

This belt is equipped with a weighing station and allows to subdivide animals by weight categories.

It has 6 unloading stations to manage simultaneously 6 weight categories.




## CARACTÉRISTIQUES TECHNIQUES

| | | | |
|---|---|---|---|
| | Capacité | uph | 500 |
| | Poids animaux vivants | Kg | 2,5 - 5,5 |
| | Pas crochets | " | 6 |

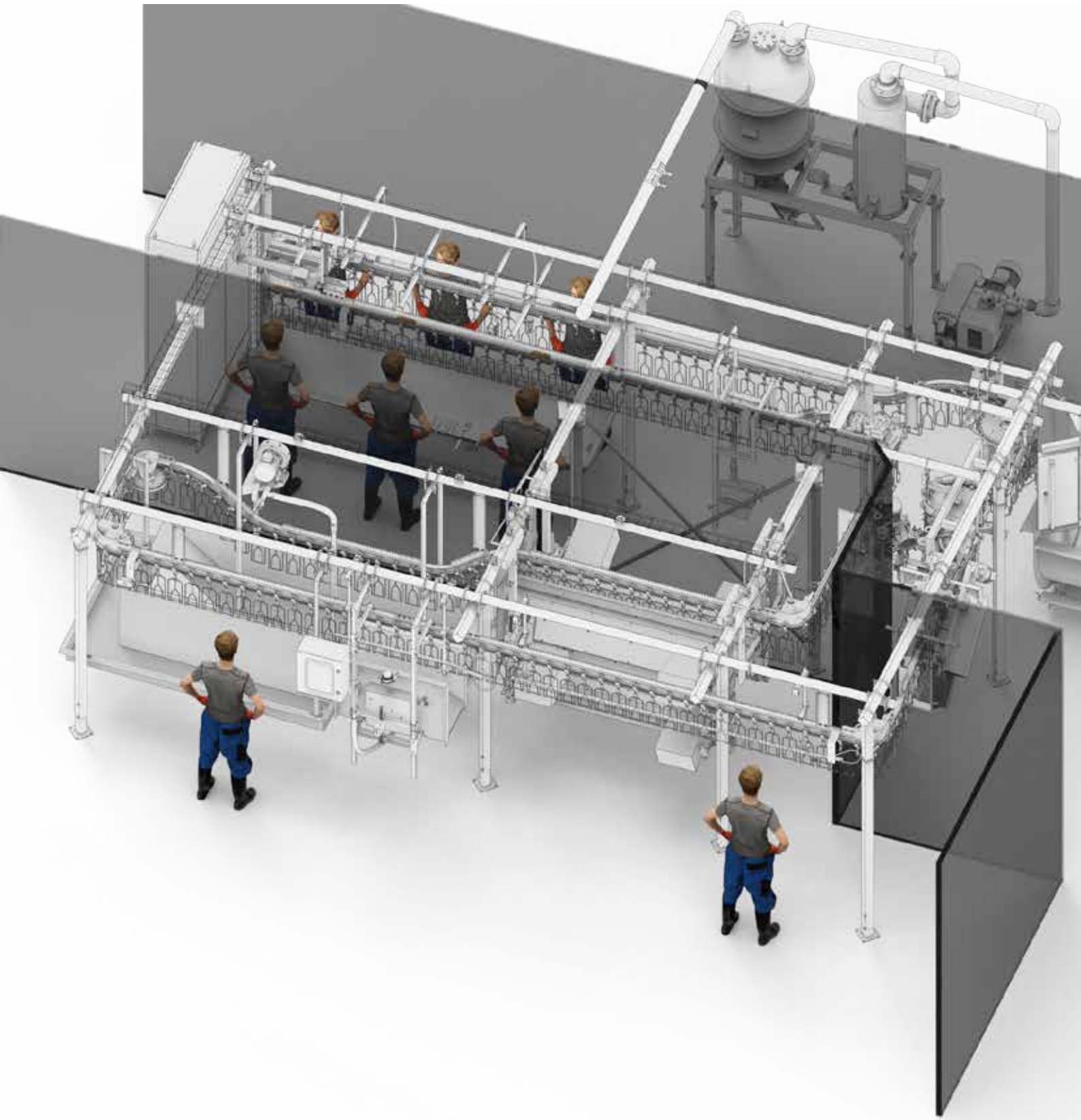
## DIMENSIONS

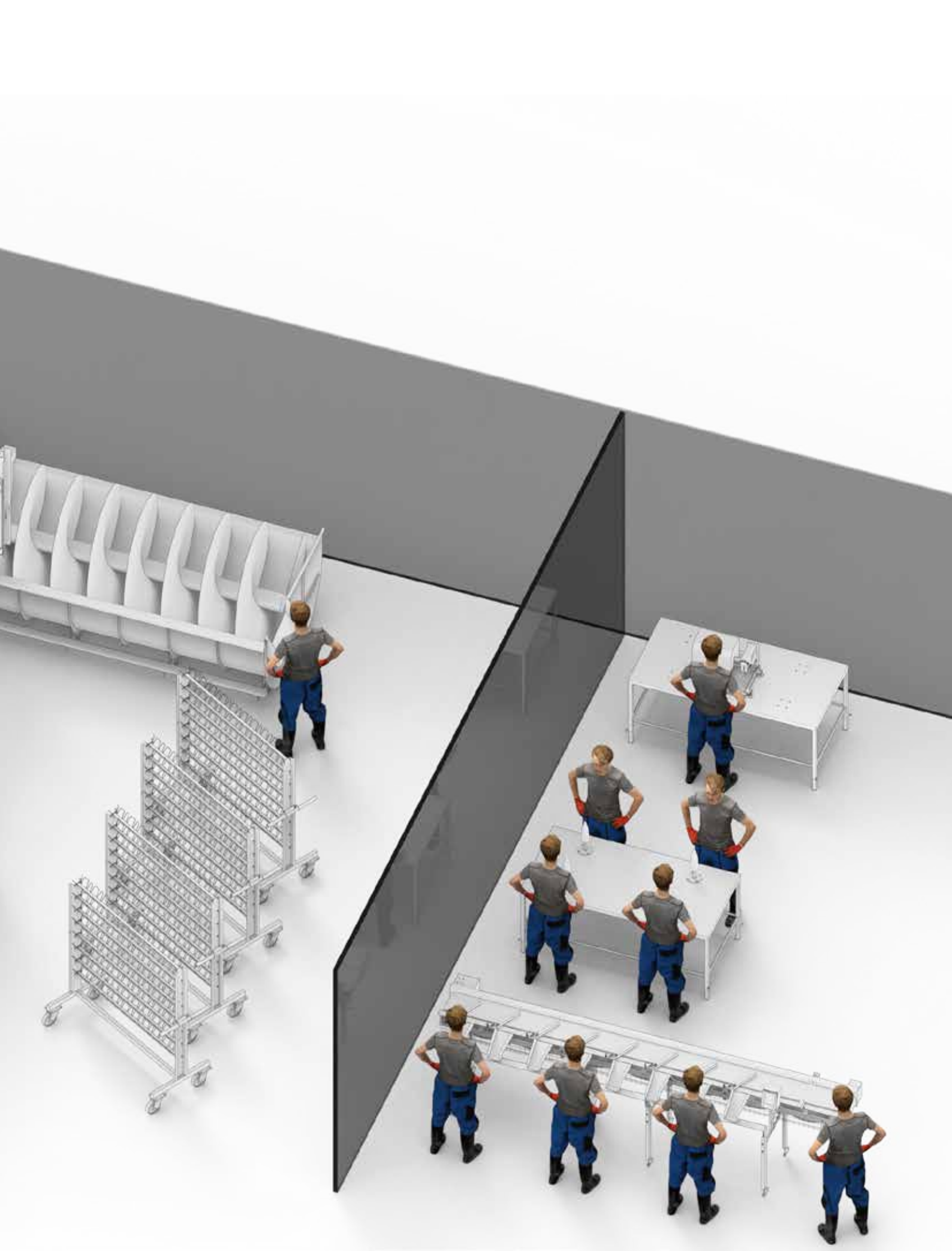
| | | | |
|---|---|---|---|
| | L1 | mm | 7.160 |
| | W1 | mm | 5.400 |
| | H1 | mm | 2.740 |

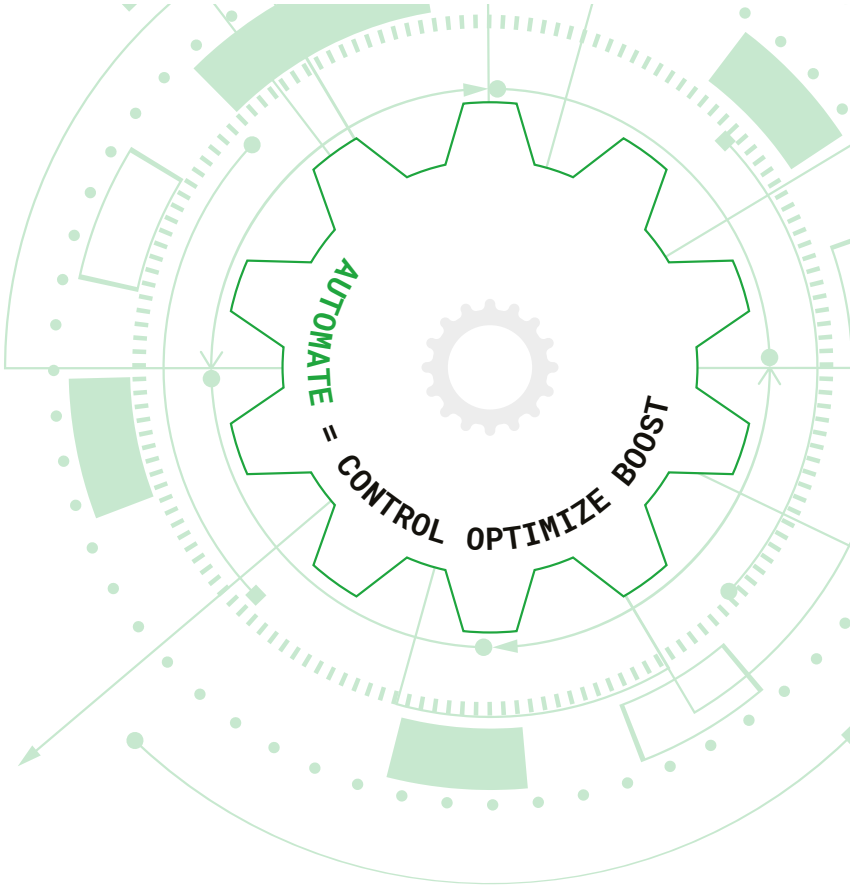
## BESOINS

| | | | |
|---|---|---|---|
| **Air** | Connexion | mm | 8 |
| | Consommation | NL/min | 1 |
| **Eau** | Connexion | " | 1/2 |
| | Consommation | m3/h | 6 |
| **Electricité** | Alimentation | V | 400 |
| | Fréquence | Hz | 50/60 |
| | Puissance | kW | 31 |

Les illustrations et les dimensions sont approximatives et non contraignantes. Le sujet du plan varie dans l'intérêt du progrès technique. La version réelle de la machine est spécifiée dans nos documents de proposition et confirmation de commande et peut différer de la photo et des plans affichés dans cette brochure. Les carters de protection et de sécurité ont été enlevés pour la photo.





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